

**ATTORNEY DOCKET NO.  
11321-P012USD14**

**PATENT**

**UNITED STATES PATENT AND TRADEMARK OFFICE**

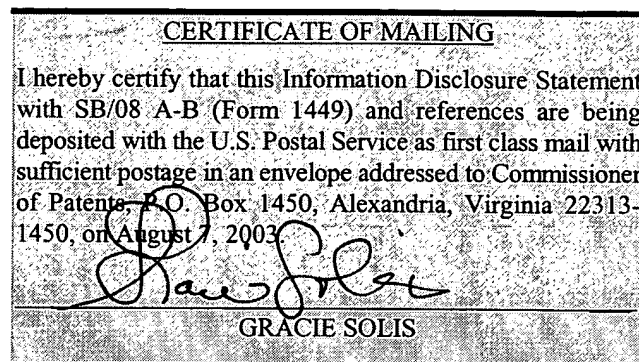
In re Application of: Richard E. Smalley et al.

Group Art Unit: Not Yet Assigned

Serial No.: Not Yet Assigned

Filed: Herewith

Title: CARBON FIBERS FORMED FROM  
SINGLE-WALL CARBON NANOTUBES



**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313

Dear Sir:

This Information Disclosure Statement is being submitted in connection with the above-identified application for patent. Applicant submits herewith patents, publications or other information of which they are aware, which he/she believes may be material to the patentability of this application and in respect of which there may be a duty to disclose in accordance with 37 C.F.R. § 1.56.

While this Information Disclosure Statement may be "material" pursuant to 37 C.F.R. § 1.56, it is not intended to constitute an admission that any patent, publication or other information referred to herein is "prior art" for this invention unless specifically designated as such.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. § 1.56(a) exists.

The attached form, PTO-1449, provides a listing of patents, publications, or other information as required by 37 C.F.R. § 1.98(a)(1).

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A copy of each of the items identified on the attached Form PTO-1449 is supplied herewith, except for the pending patent applications, for which no copies are being submitted.

Applicant believes that no fee is due at this time. However, the Assistant Commissioner is hereby authorized to credit any overpayment or for inadvertently omitted fees to Deposit Account No. 23-2426 (11321-P012USD14).

Respectfully submitted,

By: 

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AUSTIN\_1\2247561  
11321-P012USD14 08/07/2003

**LIST OF PATENTS AND PUBLICATIONS FOR  
 APPLICANTS' INFORMATION DISCLOSURE  
 STATEMENT**

## Reference Designation

**U.S. PATENT DOCUMENTS**

| Examiner Initial | Document Number | Date       | Name                  | Class | Subclass | Filing Date if Appropriate |
|------------------|-----------------|------------|-----------------------|-------|----------|----------------------------|
| _____ AAA        | 5,698,175       | 12/16/1997 | Hiura et al.          | 423   | 447.1    |                            |
| _____ ABA        | 5,641,466       | 06/24/97   | Ebbesen et al.        | 423   | 447.2    |                            |
| _____ ACA        | 5,560,898       | 10/01/96   | Uchida et al.         | 423   | 461      |                            |
| _____ ADA        | 5,935,339       | 08/10/99   | Henderson et al.      | 134   | 1        |                            |
| _____ AEA        | 5,730,940       | 03/24/98   | Nakagawa              | 422   | 68.1     |                            |
| _____ AFA        | 5,363,697       | 11/15/84   | Nakagawa              | 73    | 105      |                            |
| _____ AGA        | 4,785,189       | 11/15/88   | Wells                 | 250   | 492.2    |                            |
| _____ AHA        | 5,171,992       | 12/15/92   | Clabes et al.         | 250   | 306      |                            |
| _____ AIA        | 5,126,574       | 06/30/92   | Gallagher             | 250   | 492.2    |                            |
| _____ AJA        | 5,268,573       | 12/07/93   | Weiss et al.          | 250   | 306      |                            |
| _____ AKA        | 5,381,101       | 01/10/95   | Bloom et al.          | 325   | 676      |                            |
| _____ ALA        | 5,503,010       | 04/02/96   | Yamanaka              | 73    | 105      |                            |
| _____ AMA        | 5,824,470       | 10/20/98   | Baldeschwieler et al. | 435   | 6        |                            |

**FOREIGN PATENT DOCUMENTS**

| Examiner Initial | Document Number | Date       | Country  | Class | Subclass | Translation<br>Yes No |
|------------------|-----------------|------------|----------|-------|----------|-----------------------|
| _____ ANA        | EP 1 176 234 A2 | 12/05/1993 | European |       |          |                       |
| _____ AOA        | WO 96/18059     | 06/13/1996 | PCT      |       |          |                       |

**OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)**

| Examiner Initial |   |
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| _____ APA        | LI, <i>et al.</i> , "Large-Scale Synthesis of Aligned Carbon Nanotubes," <i>Science</i> , Volume 274, December 6, 1996, pp. 1701-1703.                        |
| _____ AQA        | LIU, <i>et al.</i> , "Fullerene Pipes," <i>Science</i> , Volume 280, May 22, 1998, pp. 1253-1256.   |
| _____ ARA        | THESS, <i>et al.</i> , "Crystalline Ropes of Metallic Carbon Nanotubes," <i>Science</i> , Volume 273, July 26, 1996, pp. 483-487.                             |
| _____ ASA        | TOHJI, <i>et al.</i> , "Purifying single-walled nanotubes," <i>Nature</i> , Volume 383, October 24, 1996, pp. 679.  |
| _____ ATA        | TOHJI, <i>et al.</i> , "Purification Procedure for Single-Walled Nanotubes," <i>J. Phys. Chem. B.</i> , Volume 101, No. 11, 1997, pp. 1974-1978.              |
| _____ AUA        | AJAYAN, <i>et al.</i> , "Nanometre-size tubes of carbon," <i>Rep. Prog. Phys.</i> , Volume 60, 1997, pp. 1025-1062.   |
| _____ AVA        | FISHBINE, "Carbon Nanotube Alignment and Manipulation Using Electrostatic Fields," <i>Fullerene Science &amp; Technology</i> , Volume 4(1), 1996, pp. 87-100. |

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- \_\_\_\_\_ BAB DRAVID, *et al.*, "Buckytubes and Derivatives: Their Growth and Implications for Buckyball Formation," *Science*, Volume 259, March 12, 1993, pp. 1601-1604.
- \_\_\_\_\_ BBB SMALLEY, "From dopyballs to nanowires," *Materials Science and Engineering*, Volume B19, 1993, pp. 1-7.
- \_\_\_\_\_ BCB CHEN, "Growth and Properties of Carbon Nanotubes," *Thesis for the degree Master of Science, Rice University*, Houston, Texas, May 1995.
- \_\_\_\_\_ BDB RINZLER, *et al.*, "Field Emission and Growth of Fullerene Nanotubes," *Presented at the Fall, 1994 MRS Meeting*, November 28, 1994, Boston, submitted for MRS proceedings, Volume 359.
- \_\_\_\_\_ BEB GAMALY, *et al.*, "Mechanism of carbon nanotube formation in the arc discharge," *Physical Review B*, Volume 52, Number 3, July 15, 1995-I, pp. 2083-2089.
- \_\_\_\_\_ BFB GE, *et al.*, "Scanning tunneling microscopy of single-shell nanotubes of carbon," *Appl. Phys. Lett.*, Volume 65(18), October 31, 1994, pp. 2284-2286.
- \_\_\_\_\_ BGB AJAYAN *et al.*, "Opening carbon nanotubes with oxygen and implications for filing," *Nature*, Volume 362, April 8, 1993, pp. 522-525.
- \_\_\_\_\_ BHB CHICO *et al.*, "Pure Carbon Nanoscale Devices: Nanotube Heterojunctions," *The American Physical Society*, Volume 76, Number 6, February 5, 1996, pp. 971-973.
- \_\_\_\_\_ BIB DRESSELHAUS *et al.*, "Science of Fullerenes and Carbon Nanotubes," *Academic Press*, Chapter 19, pp. 856-860.

Examiner:

Date Considered:

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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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